

NEW PHANEROGAMS FROM MEXICO

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Tidestromia tenella, sp. nov.

Herba annua tenella, glabrescens, prostrata (in sicco subflavescens); ramulis pluribus dichotome ramosis 5–15 cm. longis ad 1 mm. crassis cum pilis barbellatis albidis sparsissime instructis; internodiis 1–2 cm. longis; foliis oppositis subsucculentis saepissime glaberrimis utrinque cum costa et nervis reticulatis plus minusve conspicue ornatis; foliorum inferiorum lamina elliptica 1–1.5 cm. longa 4–6 mm. lata, medium versus latioribus deinde basim versus in petiolum 1–2 mm. longum contracta, apice acutiuscula; superiorum foliorum lamina elliptico-orbiculari minus quam 5 mm. longa apice obtusa basi subsessili late affixa; floribus albidis glomerulas sessiles densas 3–5-floras in axillis foliorum formantibus; bracteis hyalinis late oblongis ca. 1.6 mm. longis subglabris; bracteolis albidis oblongo-ellipticis subplanis 1.5 mm. longis et 1 mm. latis, extus medium versus pilis barbellatis satis ornatis; lobis perianthii navicularibus acutis ca. 1.5 mm. longis 0.4 mm. latis, extus pilis barbellatis albis 0.4–0.6 mm. longis abundantissime ornatis; staminibus saltem ad medium in cupulam connatis; staminodiis nullis; parte filamentarum libera ad 0.4 mm. longa; antheris elliptico-oblongis 0.5–0.6 mm. longis medio affixis bilocularibus; ovario fere crassiore quam longo uniovulato; stigmate bilobato, lobis late oblongis; fructu maturo ignoto.

MEXICO: road to Mohovano, 13 km. south of Laguna del Rey, Coahuila, locally abundant on a silty desert flat, plant prostrate, succulent, light green, Sept. 21, 1938, *Johnston 7822* (TYPE, Gray Herb.).

In its barbellate, simple, rather than stellate, trichomes and in its light green glabrescent succulent herbage, this species is unique in the genus. It evidently has its closest relative in *T. lanuginosa* (Nutt.) Standley, which is also an annual herb, but differs from that species in its smaller size, prostrate habit as well as in a variety of minor technical details.

Condalia (§ *Eucondalia*) **viridis**, sp. nov.

Frutex 1–3 m. altus; ramulis divaricatis spinescentibus, juventute minute hispidulis, maturitate glabratis cortice griseo obtectis; foliis viridibus oblanceolatis vel oblanceo-obovatis 4–18 mm. longis 2–6 mm. latis, supra medium latioribus deinde basim versus in petiolum 1–2 mm.

longum gradatim attenuatis, apice obtusis vel rotundis mucronulatis, subtus costa lata et jugis 2-3 venarum latarum perinconspicueque notatis, supra viridibus haud purpurascentibus, juventute sparse puberulentis mox glabrescentibus; stipulis 1 mm. longis triangularibus persistentibus margine ciliolatis; floribus 5-meris axillaribus solitariis vel geminatis glaberrimis; pedicellis 0.5-1 mm. longis; hypanthio patelliformi ca. 1.5 mm. diametro; lobis triangularibus ca. 1.5 mm. longis intus supra medium medio-cristatis; petalis nullis; staminibus infra sinibus calyci affixis ca. 1.2 mm. longis glabris; ovario glaberrimo; stigmatibus obscure 2-lobato; drupa nigra ca. 5 mm. diametro globosa; nucula ellipsoidea ad 5 mm. longa.

COAHUILA: about 18 km. south of Allende, very spinescent bush 1-1.5 m. tall, fruit black, under acacias in dry stream-way, Aug. 23, 1938, *Johnston 7015* (TYPE, Gray Herb.); 33 km. N.W. of Hacienda La Babia, open valley floor, 1936, *Wynd & Mueller 439* (G). TEXAS: Eagle Pass, Val Verde Co., 1880, *Palmer 164* (G); Eagle Pass, 1882, *Havard 61* (G); Hudspeth County, May 26, 1928, *Cory 1983* (G); between Burro Mesa and Chisos Mts., Brewster Co., shrub 3 m. tall, in gravelly wash, July 1931, *Moore & Steyermark 3402* (G).

Though some of the Texan specimens have been accepted as forms of *C. obovata* Hook., this plant is evidently most closely related to *C. mexicana* Schlecht. From the latter species it differs in its glabrous ovary, calyx, and mature leaves, and in the green rather than reddish brown upper face of the leaves. It occurs in a region north of the known range of *C. mexicana*. From *C. obovata*, a species of central and southern Texas and adjacent Mexico, *C. viridis* differs in its smaller bushy stature, its much smaller leaves, green on both surfaces, and in its more westerly occurrence.

Condalia (§ *Eucondalia*) **fasciculata**, sp. nov.

Frutex rigidus spinescens 1-2.5 dm. altus subglaber; ramulis divaricatis spinescentibus, juventute pallidis sparse perinconspicue hispidulis maturitate fuscescentibus glabrescentibus; foliis fasciculatis numerosis glaberrimis carnosulis numerosis viridibus 3-9 mm. longis 1-2 mm. latis oblanceolatis, supra medium latioribus deinde basim versus in petiolum 1 mm. longum gradatim attenuatis, supra laevibus nullo modo nervatis purpurascentibus punctulatis, subtus costa lata et nervis (1-2-jugis) latis depressis perinconspicue notatis, apice obtusis vel acutis mucronatis; stipularibus triangularibus 0.7-0.9 mm. longis inconspicue ciliolatis; floribus glaberrimis in axillis foliorum solitariis vel geminatis; pedicellis ca. 0.8 mm. longis; hypanthio patelliformi ca. 1.4 mm. diametro; sepalis

triangularibus 1 mm. longis persistentibus; petalis nullis; staminibus sepalis brevioribus, filamentis ca. 0.5 mm. longis; stigmatibus obscure bilobatis; drupa globosa nigra ca. 5 mm. diametro carnosae nucula ellipsoidea ad 5 mm. longa; seminibus solitariis.

MEXICO: 3 km. south of Cedral, San Luis Potosí, about sink-holes on gypsum plain, bush 1–1.5 m. high, Sept. 11, 1938, *Johnston 7593* (TYPE, Gray Herb.); 63 km. south of Matehuala, San Luis Potosí, about sink-holes on gypsum plain, intricate bush 1 m. tall, fruit black, Sept. 10, 1938, *Johnston 7512* (G); 10 km. south of Sierra Hermosa, Zacatecas, dense rigid bush 1.5–2.5 m. tall, silty plain in thorn-thicket, Sept. 4, 1938, *Johnston 7409* (G).

This species is probably most closely related to *C. spathulata* Gray but differs conspicuously in its short pedicels, its dark green foliage, its indistinct veins and midrib on the lower leaf-surface, its denser habit of growth, and its coarser branches. It occupies a region in Mexico south of its relative. In the Gray Herbarium there is an old collection of this species collected by Parry, no. 111, on the road from "San Luis Potosí to San Antonio, Texas."

Condalia (§ Condaliopsis) **velutina**, sp. nov.

Frutex; ramulis divaricatis spinescentibus dense villosulis griseo-velutinis; foliis obovatis vel ellipticis 6–15 mm. longis 5–10 mm. latis, medium versus vel paullo supra medium latioribus deinde basim versus in petiolum 1–3 mm. longum contractis, apice acutis vel obtusis vel raro rotundis, supra purpurascens villosulis vel glabrescentibus, subtus (praesertim juvenilibus) pallidis villosis costa et jugis 3–4 venarum primarium et reticulum venarum secundarium purpureo-tinctis; stipulis cuneato-lanceolatis ca. 2.5 mm. longis adpresse villosis subpersistentibus; floribus villosis in cymulis 2–3-floris dispositis, in alabastro bracteis latis villosis obtectis; cymulis sessilibus in quaque axilla ramulorum saepe 2–3 congestis; pedicellis 1 mm. longis; hypanthio 1.5 mm. diametro, lobis triangularibus ca. 1.2 mm. longis extus dense villosis; petalis 1 mm. longis, apicem versus latioribus (ca. 0.5 mm. latis), apice emarginatis; staminibus 5 basi petalorum affixis et quam eis subaequilongis; ovario dense villosis; drupa ut videtur globosa; nucula 8 mm. longa.

MEXICO: Guanajuato, 1886, "Zargihuil," *A. Duges 35A* (G); Campo Santo de San Sebastian, Villa de Guanajuato, Dec. 1897, *Duges* (TYPE, Gray Herb.); Guanajuato, Nov. 1903, *Duges 33* (G).

Though evidently not closely related to *C. mexicana* Schlecht. and even belonging to a different section of the genus, the proposed species in gross aspect suggest a coarse form of that species. It differs, however, in its

abundant soft indument, peculiar inflorescence, and petaliferous flowers. The flowers are borne 2-3 in subumbellate axillary clusters. These groups of flowers when immature are covered with hairy bracts forming globose buds, 1-2 mm. thick. Several of these pale hairy globose buds are borne in the axil of each leaf. They are unique in the genus.

***Frankenia gypsophila*, sp. nov.**

Planta depressa 2-5 cm. alta 5-17 cm. diametro; radice valida lignosa apice 1-2.5 cm. crassa; ramulis juniperoideis subquadangularibus usque 1 mm. crassis minute hispidulis numerosis foliosissimis 3-7 cm. longis subsimplicibus vel ascenderet ramosis, e caudice dense congesto vel e caudice fruticoso prostrato laxo ramoso (ramis usque 8 cm. longis) erumpentibus; internodiis 1-5 cm. longis; foliis subprismaticis 1-3 (saepae ca. 2) mm. longis 0.5-1 mm. latis, latere marginali (praesertim infra medium) ciliolatis alibi glaberrimis, basi subcordatis vel subsagittatis, margine valde revolutis (facie inferiore laminae omnino occulta) ergo perspicue in medio lateris inferioris sulcatis, latere superiore concavis, infra medium cauli vel fasciculo axillari foliorum adpressis; basibus foliorum utriusque jugi plus minusve juxtapositis sed haud connatis; vaginis stipularibus inconspicuis angustissimis ciliolatis; floribus in ramulis terminalibus haud dichasialibus (non raro in axillis ultimis pluribus ramulos fertiles gerentibus et racemum ut videtur formantibus); calycibus 3.5 (maturitate ad 5) mm. longis valde 5-costatis sessilibus basi jugis duobus decussatis foliorum (caulinis similium) obtectis, lobis 5 triangularibus ca. 0.8 mm. longis; petalis 5 albis vel rariter rosaceis quam calyce ad 2 mm. longioribus anguste oblanceolatis 5 mm. longis ad 1 mm. latis (3 mm. infra apicem acutum ligula minuta donatis); staminibus 5 ca. 4 mm. longis infra medium alatis; antheris ca. 0.6 mm. longis; ovario glabro elongato ca. 1.5 mm. longo; stylo 4.5-5 mm. longo in ramos 3 ca. 1.5 mm. longos fissos; stigmatibus obovatis; carpellis 3 angustis ca. 2.5 mm. longis; ovulis 3-6 e placentis basalibus orientibus; seminibus 3-6 minute papillatis late cylindricis 1.2 mm. longis ca. 0.4 mm. crassis; funiculis longis superne refractis.

MEXICO: 10 km. north of San Vicente (53 km. north of Cedral), locally common in gypsum-soil, Sept. 12, 1938, *Johnston 7614* (TYPE, Gray Herb.).

A remarkable species belonging to the sect. *BASIGONIA* Niedenz. Its crowded thick scale-like leaves and flat branches have produced a juniperoid habit which, while suggestive of certain species of the Mediterranean and Australia, is very different from any known American species. Its nearest relatives appear to be *F. Jamesii* Torr. of Texas, New Mexico

and Colorado, and *F. Palmeri* Wats. of the coasts of northwestern Mexico and adjacent California. These latter are ericoid shrubs with cymose inflorescences and fewer larger non-papillose seeds.

The leaves of *F. gypsophila* are excessively revolute, the inrolled margins of the leaves meeting and completely covering the lower surface. The midrib, accordingly, is completely hidden. Because of their thickish texture and inrolled margins, the leaves appear prismatic, i.e. somewhat 4-sided, and are about half as thick as broad. The leaves are strictly ascending and on their outer and most conspicuous face (morphologically the lower face) there is a deep narrow lineate groove formed by the meeting of the revolute leaf-margins. Practically all the leaves on the main stems and branches bear in their axils short arrested leafy shoots or crowded leaf-fascicles. These axillary short shoots are commonly less than twice the length of the subtending leaf. Those near the ends of the branches, however, may terminate in a solitary flower. When a number of these short upper shoots are floriferous the plant seems to produce a leafy raceme. Such appearance, however, is deceptive since the cymose type of inflorescence dominates in the genus and it is almost certain that the individual terminal flowers of *F. gypsophila* each represent the initial flower in an otherwise suppressed cyme.

The species was observed in only one locality. It was locally common and associated with a number of the species that characterize the gypsum soils of the intermontane plateau of northern Mexico. The soil was heavy and chalky white with gypsum. Only one other American species of the genus, *F. Jamesii*, is known to frequent gypsum soils. The other American species affect saline localities.

Fouquieria Shrevei, sp. nov.

Arbuscula 2-3 m. alta e trunco brevi ramis numerosis stricte ascendentibus subsimplicibus donata; spinis juventute non raro laminiferis, vetustioribus 2-3 cm. longis saepe longioribus quam foliis axillaribus supra subplanis, subtus concavis; foliis oblongo-obovatis vel orbiculari-ellipticis vel latissime obovatis 1-2.5 cm. latis 1.5-3 cm. longis, apice rotundis, basi in petiolum 1-2 mm. longum valde contractis, margine evidenter (ca. 0.3 mm. late) pallide scarioso-marginatis; floribus in racemos breves glomeratos congestis; racemis (rhachi 3-8 mm. longo) densis dorsi-ventraliter compressis 3-12-floris 1-2 cm. longis (quam folio suffultante evidenter brevioribus) ex axillis foliorum superiorum caulis erumpentibus; pedicellis 0-2 mm. longis, bracteolis 2 oblongis donatis; sepalis ovato-orbicularibus ca. 5 mm. longis, pallidis, margine scariosis, apice abrupte cuspidatis; corolla alba; tubo sepalis breviori campanulato 6-7

mm. longo, extus glaberrimo, intus in zona 2-4 mm. infra basim lobi villosus alibi glaberrimo, apice 5-6 mm. crasso, basi 2-3 mm. crasso; lobis recurvatis 6-7 mm. longis 4.5 mm. latis elliptico-oblongis imam ad basim inconspicue sed abrupte constrictis, apice rotundis abrupte acuminate; staminibus 10 evidenter exsertis; filamentis ad 10 mm. longis infra medium compressis et latioribus, in zona 2-4 mm. supra basim villosis alibi glabris; antheris triangularibus 2.5-3 mm. longis rosaceis, basi 1.5 mm. latis; stylo ca. 9 mm. longo usque ad ca. 4 mm. supra basim simplicibus deinde in lobos flagellatos rosaceos 5 partito; ovario glaberrimo; capsula 3-valvata elongato-ovoidea; valvis 10-13 mm. longis 5-8 mm. latis; seminibus ignotis.

MEXICO: 26 km. south of Laguna del Rey on the road to Mohovano, Coahuila, locally common on a gypsum-flat, Sept. 20, 1938, *Johnston 7815* (TYPE, Gray Herb.).

A very distinct and well-marked species which differs from all known congeners in its very broad scarious-margined leaves, and its very short congested axillary racemes. The only other white-flowered species of *Fouquieria* is *F. Purpusi* Brandeg. of Oaxaca. In the proportions and size of its corollas the new species is very similar to *F. fasciculata* (R. & S.) Nash.

The species is confined to gypsum soils where it is associated with such species as *Petalonyx crenatus* Gray, *Selinocarpus Purpusianus* Hiemerl. etc. After studying the plant at the type-locality various colonies of it were seen as we travelled northward through the rolling country towards Laguna del Rey. About the type-locality *F. splendens* was very common on the rocky slopes and along the base of the hills. About the margins of the gypsum-flat it grew almost side by side with *F. Shrevei*. These two species could be distinguished at a glance. The new species was a smaller sturdier plant with more rigid darker branches. Its leaves are larger and proportionately much broader than those of *F. splendens*. The new species is a very much more resinous plant. Moribund plants secrete an abundance of brown resin in the bark of the trunk. Surprising amounts of this resin may be picked up about the decayed trunk of any dead plant.

The species is probably widely distributed in gypsum soils in the very arid region about Laguna del Rey and is to be expected elsewhere in southwestern Coahuila. There is an old specimen in the Gray Herbarium which represents the species. This was collected by Palmer (no. 2001) in May 1880 at "San Lorenzo de Laguna, Coahuila." "San Lorenzo de Laguna" is the type-locality for a number of the species which, like *Fouquieria*, are confined to gypsum soils in the region south of Laguna

del Rey. Although this locality has been given as 75 miles southwest of Parras, I am of the opinion that "San Lorenzo de Laguna, Coahuila" may be the same as the "San Lorenzo" of Wislizenus and consequently at the north-base of the range of hills east of Torreon.

It is a pleasure to associate with this remarkable species the name of my collecting-companion, Dr. Forrest Shreve of the Desert Laboratory, Tucson, Arizona. His publications show a sustained interest in this genus and cover many observations on the ecology, distribution and physiology of this interesting group of desert trees. His name is most fittingly associated with this newly discovered species.

Sarcococca Konzattii (Standley), comb. nov.

Buxus Konzattii Standley, Pub. Field Mus., Bot. **11**: 163 (1936).

Sarcococca guatemalensis Johnston, Jour. Arn. Arb. **19**: 121 (1938).

Through the kindness of Mr. C. V. Morton, of Washington, I have learned that the plant which I have described as *Sarcococca guatemalensis* had been previously described from the state of Oaxaca, Mexico, as *Buxus Konzattii*. The Mexican material is incomplete. Fruit being not represented the unexpected generic relations of the plant could not be established.

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